

CLAIMS

What is claimed is:

1. A laser processing apparatus, comprising:
a laser oscillator for emitting laser light;
an $f\theta$ lens positioned relative to the laser oscillator
for converging the emitted laser light onto a workpiece; and
a wavelength selector interposed between the laser
oscillator and the $f\theta$ lens for separating a light ray having a
specified wavelength out of the laser light.

2. The laser processing apparatus according to Claim 1,
wherein the wavelength selector includes a prism disposed
along a light axis of the laser light, and a spatial filter
having a focusing lens and a shield for passing only a light
ray having a specified wavelength.

3. The laser processing apparatus according to Claim 2,
wherein the laser light is transmitted through the prism a
plurality of times.

4. The laser processing apparatus according to Claim 3,
wherein the wavelength selector includes a pair of reflection
mirrors, ^{wherein one on each side of the prism} ~~on either side of the prism~~, for causing the laser
light to pass through the prism more than once.

121.75
121.76
121.77
121.78
121.79

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A)

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Capable of : process limitation
Sub
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(20)

fig. 5

(52, 53)

Am.

5. The laser processing apparatus according to Claim 1,
(54a, 54B)
wherein the wavelength selector includes a plurality of prisms
disposed along a light axis of the laser light, and a spatial
filter having a focusing lens and a shield for passing only a
5 light ray having a specified wavelength.

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6. The laser processing apparatus according to Claim 5,
wherein the plurality of prisms are disposed between a pair of
opposed reflection mirrors. fig. 6

7. The laser processing apparatus according to Claim 1,
(35)
wherein the wavelength selector includes a diffraction grating
disposed along a light axis of the laser light, and a shield
for passing only a light ray having a specified wavelength.

8. The laser processing apparatus according to Claim 1,
(3) (37)
wherein the wavelength selector includes a wave plate disposed
along a light axis of the laser light for polarizing the laser
light into different phase shifts in accordance with
20 wavelengths, and a polarizer (39) for passing only a light ray
polarized into a phase shift corresponding to a specified
wavelength.

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9. A laser processing apparatus, comprising:
a laser oscillator for emitting laser light;

an $f\theta$ lens positioned relative to the laser oscillator
for converging the emitted laser light onto a workpiece;

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contd
(4)
a scanning member for guiding the laser light into the $f\theta$
lens in a scanning manner; and

(7)
5 a wavelength selector interposed between the laser
oscillator and the $f\theta$ lens for separating a light ray having a
specified wavelength from the laser light.

10. The laser processing apparatus according to Claim 9,
wherein the scanning member is a galvanometer. (4)

11. A laser processing method comprising:

emitting laser light from a laser oscillator;

separating a light ray having a specified wavelength out
of the laser light by a wavelength selector; and

... and light ray using an $f\theta$ lens onto

